



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,824	12/07/2004	Tetsunori Otaguro	INO-C499	7451

7590 08/10/2006

George A. Loud, Esquire
BACON & THOMAS
Fourth Floor
625 Slaters Lane
Alexandria, VA 22314-1176

EXAMINER

KAUFFMAN, PHILLIP

ART UNIT PAPER NUMBER

3652

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/516,824

Applicant(s)

OTAGURO, TETSUNORI

Examiner

Phil J. Kauffman

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: figure 1, item 4-n-1. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure. The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art. The last sentence of the abstract recites purported merits of the invention (e.g. the sorting function is improved).

4. The disclosure is objected to because of the following informalities: the term "transversely" (paragraph 39, line 2) is used incorrectly. The conveyance paths described as items 7a and 7b of applicant's figures 5, 6, and 7 are described as "transversely parallel". Transverse means lying across or perpendicular (see Merriam-Webster, 10th Edition, © 1997); however the conveyance paths described are not lying across each other, nor perpendicular, rather they are parallel to one another in the same horizontal plane.

In an alternate embodiment of the conveyor apparatus (paragraph 40, line 2), the two conveyance paths (items 7a and 7b of applicant's figure 2) are described as "arranged vertically in parallel." For consistency, please consider referring to the "transverse" conveyance paths (paragraph 39, line 2) as "arranged horizontally in parallel."

5. The disclosure is objected to because of the following informalities: the term "4-m+1" (paragraph 0057, line 2) is used to mean the treatment apparatus group one group beyond 4-m. Proper mathematical operators would group the

Art Unit: 3652

$m+1$ so that the term would be " $4-(m+1)$ ". Likewise in paragraph 0107, line 4, and the term " $4-n-1$ " of Figure 1.

6. The disclosure is objected to because of the following informalities: the third paragraph should be updated to reflect that Japanese Patent Application No. 2001-283407 has been issued as US 6,702,099.

7. Claim 15 is objected to because of the following informalities: After the first sentence a "14." was inserted as a typographical error and should be deleted.

8. Claims 13 and 14 are objected to because of the following informalities: "is" should be replaced by "are" because the subject (i.e. units) is plural.

Appropriate action is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

11. Regarding claims 4 and 10 (and their dependent claims 13 and 16), the term "transversely" used incorrectly. The term is indefinite because the specification does not clearly redefine the term. See more detailed explanation and suggested correction at item 4 above.

12. Regarding claim 1 (and its dependent claims 2-6, and 13-17) and claim 7 (and its dependent claims 8-11 and 18), the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonora et al. (US 6,468,021), and further in view of Brain et.al (*Emerging needs for continuous flow FOUP transport, Electronics Manufacturing Technology Symposium*, 18-19 October 1999).

15. Regarding claim 1, Bonora et al., teaches a container conveying system for conveying containers 12 containing items such as wafers. The system comprises: a conveyance apparatus substantially in parallel (figures 1,2, and 5) with a plurality of treatment apparatuses 16 arranged on one side of a passage (figure 2); interface devices (figure 2, 22) on the side of the treatment apparatus facing the passage capable of moving substrates from the interior of the container to the interior of the treatment apparatus and vice versa (Column 6, lines 9-13).

Bonora et al., however, does not teach a transfer apparatus.

Brain et al. teaches a transfer apparatus for the transfer of containers such as Front Opening Unified Pods (Abstract, paragraph 1) to be used in a clean room designed with a plurality of treatment apparatuses arranged substantially in parallel (referred to as "ballroom design," see figures 6-9). The transfer device is

Art Unit: 3652

capable of moving freely in the upper ceiling space (*Abstract*, paragraph 1). The transfer apparatus is further capable of delivering containers between a conveyance apparatus and a treatment apparatuses (see Figure 3 Lifter and *Overview of AMHS Technologies* paragraph) and between treatment apparatuses (from "load port" to "load port", see *Abstract*, paragraph 1). Brain et al. further teaches the transfer device can be used in conjunction with conveyance devices (e.g. "hybrid CFT/OHT system" and "Enhanced hybrid CFT/OHT system," p80), and that conveyance devices and transfer devices are in fact two components of an Automated Material Handling System.

Brain et al. states the use of a transfer device (such as an Overhead Shuttle (OHS) or Overhead Hoist Transport (OHT)) has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art, at the time applicant's invention was made, to combine the conveyance apparatus, treatment apparatus, and interface devices of Bonora et al. with the transfer apparatus of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

16. Regarding claims 2-5, Bonora et al. further teaches the conveyance apparatus may be a conveyor, may have plural paths, capable of independent travel (bi-directional), with one or more cross spurs and other considerable variation that would include placement in vertical and horizontal parallel (column 6, lines 20-47).

17. Regarding claim 6, Bonora et al. further teaches the treatment apparatuses may have at least two units (column 5, lines 63-65).

18. Regarding claim 7, the contention of claim 1 above is incorporated. In addition, Bonora et al. teaches the conveyance apparatus may be in the upper ceiling space (column 6, lines 34-47) and Brain et al. teaches the transfer apparatus is capable of moving freely in a vertical plane (see description of OHT and OHS operation throughout, as well as *Lifter* paragraph and figure 3 on page 79).

Brain et al. states the use of a transfer device (such as an Overhead Shuttle (OHS) or Overhead Hoist Transport (OHT)) has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art, at the time applicant's invention was made, to combine the conveyance apparatus, plural treatment apparatuses, and interface devices of Bonora et al. with the transfer apparatus of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

19. Regarding claim 8, Bonora teaches a plurality of conveyance paths (column 6, lines 20-47) allowing containers to stand by ("storage or buffer", column 8, lines 21-24). Brain et al. further teaches the transfer apparatus (OHS and OHT) delivers containers from the conveyance path to the treatment apparatuses (see Figure 3 *Lifter* and *Overview of AMHS Technologies* paragraph).

Art Unit: 3652

It would have been obvious to one of ordinary skill in the art, at the time applicant's invention was made, to combine the plural conveyance paths of Bonora et al. with the transfer apparatus of Brain et al. to allow containers to stand by.

20. Regarding claim 9, Bonora et al. teaches plural treatment apparatuses on both sides of a passage (column 5, lines 63-65; and figure 1), and a conveyance apparatus with two units and a going path and a returning path ("bi-directional conveyor on each side of the bay," column 6, lines 30-31).

21. Regarding claim 10 and 11, Bonora et al. further teaches considerable variation of the conveyance apparatus that would include both transverse (horizontally) and vertically parallel arrangements.

22. Regarding claims 12 and 13, Bonora et al. further teaches a conveyance apparatus that is a conveyor.

23. Regarding claims 14-17, Brain et al. further teaches a transfer apparatus with at least two units (see figures 6-8, p80).

24. Regarding claim 18, Bonora et al. further teaches plural treatment apparatuses on both sides of a passage (column 5, lines 63-65; and figure 1), and a conveyance apparatus with two units and a going path and a returning path ("bi-directional conveyor on each side of the bay," column 6, lines 30-31).

Art Unit: 3652

25. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaguro et al. (US 6,702,099), and further in view of Brain et al. (*Emerging needs for continuous flow FOUP transport*, Electronics Manufacturing Technology Symposium, 18-19 October 1999).

The applied reference (Otaguro et al.) has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

26. Regarding claims 1-6 and 12-17, Otaguro et al., teaches a container conveying system for conveying containers holding items such as wafers in a clean room. The system comprises: a transfer apparatus.14 in the ceiling space

Art Unit: 3652

substantially in parallel with a plurality of treatment apparatuses (see figures 1 and 2) and capable of delivering containers between treatment apparatuses 3; and interface devices 4 on the side of the treatment apparatus facing the passage capable of moving substrates from the interior of the container to the interior of the treatment apparatus and vice versa.

Otaguro et al., however, does not teach a conveyance.

Brain et al. teaches a conveyance apparatus to convey containers such as Front Opening Unified Pods (Abstract, paragraph 1) to be used in a clean room designed with a plurality of treatment apparatuses arranged substantially in parallel (referred to as "ballroom design," p77; see also figures 6-9). Brain et al. further teaches the conveyance apparatus can be used in conjunction with transfer devices (e.g. "hybrid CFT/OHT system" and "Enhanced hybrid CFT/OHT system" p80), and that conveyance apparatus and transfer devices are in fact two components of an Automated Material Handling System.

Brain et al. states the use of a conveyance apparatus (such as a Continuous Flow Transport conveyor) has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the transfer apparatus, plural treatment apparatuses, and interface devices of Otaguro et al. with the conveyance apparatus of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

27. Regarding claims 2-4, Brain et al. further teaches the conveyance apparatus may have numerous configurations that would include vertical and horizontal placement, including: a plurality of conveyance paths, a conveyor, unidirectional and bi-directional, overhead or floor mounting, sidings of CFT track for buffering.

28. Regarding claims 6 and 14-17, Otaguro et al. further teaches at least two transfer apparatus units (see figure 1).

29. Regarding claims 5, 12, and 13, Brain et al. further teaches a conveyance apparatus that is a conveyor.

30. Regarding claims 7, and 9-11, Otaguro et al., teaches a container conveying system for conveying containers holding items such as wafers in a clean room. The system comprises: a transfer apparatus 14 in the ceiling space substantially in parallel with a plurality of treatment apparatuses 3 capable of delivering containers between treatment apparatuses and capable of moving freely in a vertical plane; interface devices 4 on the side of the treatment apparatus facing the passage capable of moving substrates from the interior of the container to the interior of the treatment apparatus and vice versa.

Otaguro et al., however, does not teach a conveyance apparatus in the upper ceiling space.

Brain et al. teaches a conveyance apparatus in the ceiling space to convey containers such as Front Opening Unified Pods (Abstract, paragraph 1) to be used in a clean room designed with a plurality of treatment apparatuses arranged substantially in parallel (referred to as "ballroom design," see figures 6-

Art Unit: 3652

9). Brain et al. further teaches the conveyance apparatus can be used in conjunction with transfer devices (e.g. "hybrid CFT/OHT system" and "Enhanced hybrid CFT/OHT system" p80), and that conveyance apparatuses and transfer devices are in fact two components of an Automated Material Handling System.

Brain et al. states the use of a conveyance apparatus (such as a Continuous Flow Transport conveyor) has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the transfer apparatus, plural treatment apparatuses, and interface devices of Otaguro et al. with the conveyance apparatus of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

31. Regarding claim 8, Brain et al. teaches a plurality of conveyance paths allowing containers to stand by ("buffer", p81). Brain et al further teaches the transfer apparatus (OHS and OHT) delivers containers from the conveyance path to the treatment apparatuses (see Figure 3 Lifter and *Overview of AMHS Technologies* paragraph).

32. Regarding claim 9 and 18, Otaguro et al. teaches plural treatment apparatuses on both sides of a passage (figures 1 and 2). Brain et al. further teaches two conveyance paths with a going path and a returning path (bi-directional) and the use of a conveyance apparatus in conjunction with a transfer apparatus that would include a transfer apparatus to the right and left of the conveyor apparatus.

Art Unit: 3652

33. Regarding claims 10 and 11, Brain et al. further teaches the conveyance apparatus may have numerous configurations that would include vertical and horizontal placement, including: a plurality of conveyance paths, a conveyor, unidirectional and bi-directional, overhead or floor mounting, sidings of CFT track for buffering.

Double Patenting

34. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a

nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

35. Claims 1-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 16 of U.S. Patent No. 6,702,099 (Otaguro et al.) in view of Brain et al.

36. Regarding claim 1, Otaguro et al., teaches in claim 16 a work conveying system for conveying containers containing items such as wafers or reticules in a clean room. The system comprises: a transfer apparatus 14 in the ceiling space with a plurality of treatment apparatuses 3 capable of delivering containers 6 between treatment apparatuses.

Otaguro et al., however, does not teach a conveyance apparatus or an interface device.

Brain et al. teaches a conveyance apparatus to convey containers such as Front Opening Unified Pods (Abstract, paragraph 1) to be used in a clean room designed with a plurality of treatment apparatuses arranged substantially in parallel (referred to as "ballroom design," see figures 6-9). Brain et al. further teaches the conveyance apparatus can be used in conjunction with a transfer device (e.g. "hybrid CFT/OHT system" and "Enhanced hybrid CFT/OHT system")

p80), and that conveyance devices and transfer devices are in fact two components of an Automated Material Handling System. Brain et al. further teaches interface devices (ports) to transfer wafers in and out of pods (p76-77).

Brain et al. states the use of a conveyance apparatus (such as a Continuous Flow Transport conveyor) in conjunction with a transfer apparatus and interface devices, has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art, at the time applicant's invention was made, to combine the transfer apparatus, and plural treatment apparatuses of Otaguro et al. with the conveyance apparatus and interface devices of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

37. Regarding claims 2-4, Brain et al. further teaches the conveyance apparatus may have numerous configurations that would include vertical and horizontal placement, including: a plurality of conveyance paths, a conveyor, unidirectional and bi-directional, overhead or floor mounting, sidings of CFT track for buffering.

38. Regarding claims 5, 12, and 13, Brain et al. further teaches a conveyance apparatus that is a conveyor.

39. Regarding claim 6, 14 and 15, Brain et al. further teaches the use of more than one transfer apparatus (see figures 6-8).

40. Regarding claim 7, Otaguro et al., teaches in claim 16 a work conveying system for conveying containers containing items such as wafers or reticules in a

Art Unit: 3652

clean room. The system comprises: a transfer apparatus ("horizontal moving means") in the ceiling space with a plurality of treatment apparatuses ("processing apparatuses") capable of delivering containers between treatment apparatuses through a vertical moving means.

Otaguro et al., however, does not teach a conveyance apparatus or an interface device.

Brain et al. teaches a conveyance apparatus in the ceiling to convey containers such as Front Opening Unified Pods (Abstract, paragraph 1) to be used in a clean room designed with a plurality of treatment apparatuses arranged substantially in parallel (referred to as "ballroom design," see figures 6-9). Brain et al. further teaches the conveyance apparatus can be used in conjunction with a transfer device (e.g. "hybrid CFT/OHT system" and "Enhanced hybrid CFT/OHT system" p80), and that conveyance devices and transfer devices are in fact two components of an Automated Material Handling System. Brain et al. further teaches interface devices (ports) to transfer wafers in and out of pods (p76-77).

Brain et al. states the use of a conveyance apparatus (such as a Continuous Flow Transport conveyor) in conjunction with a transfer apparatus and interface devices, has the advantages of reducing footprint and arrival time, and increasing capacity.

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the transfer apparatus, and plural treatment apparatuses of Otaguro et al. with the conveyance apparatus and

Art Unit: 3652

interface devices of Brain et al. to reduce footprint and arrival time, and to the increase capacity of the system.

41. Regarding claim 8, Brain et al. teaches a plurality of conveyance paths allowing containers to stand by ("buffer", p81). Brain et al further teaches the transfer apparatus (OHS and OHT) delivers containers from the conveyance path to the treatment apparatuses (see Figure 3 Lifter and *Overview of AMHS Technologies* paragraph).

42. Regarding claim 9 and 18, Brain et al. teaches plural treatment apparatuses on both sides of a passage ("ballroom design, p77, and figures 6-9). Brain et al. further teaches two conveyance paths with a going path and a returning path (bi-directional) and the use of a conveyance apparatus in conjunction with a transfer apparatus that would include a transfer apparatus to the right and left of the conveyor apparatus.

43. Regarding claims 10 and 11, Brain et al. further teaches the conveyance apparatus may have numerous configurations that would include vertical and horizontal placement, including: a plurality of conveyance paths, a conveyor, unidirectional and bi-directional, overhead or floor mounting, sidings of CFT track for buffering.

Art Unit: 3652

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phil J. Kauffman whose telephone number is (571)272-2305. The examiner can normally be reached on M-F 6:15-3:45 (except alternate Fridays).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis, can be reached on (571)272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600